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DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Parts 270 and 271

[Docket No. FRA-2015-0122, Notice No. 2]

RIN 2130-AC54

Fatigue Risk Management Programs for Certain Passenger and Freight Railroads

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: Pursuant to the Rail Safety Improvement Act of 2008, FRA is issuing regulations requiring certain railroads to develop and implement a Fatigue Risk Management Program, as one component of the railroads' larger railroad safety risk reduction programs.

DATES: This final rule is effective July 13, 2022.

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SUPPLEMENTARY INFORMATION:

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I. Introduction and Executive Summary

A. Purpose of Rulemaking

This rule is part of FRA's efforts to improve rail safety continually and to satisfy the statutory mandate of Section 103 of the Rail Safety Improvement Act of 2008 (RSIA).[1] That section, codified at 49 U.S.C. 20156, requires the development and implementation of safety risk reduction programs to improve the operational safety of: Class I railroads; railroad carriers with inadequate safety performance (ISP), as determined by the Secretary; and railroad carriers that provide intercity rail passenger or commuter rail passenger transportation. FRA addressed Section 20156's general "risk

[1] Section 103, Pub. L. 110-432, Division A, 122 Stat. 4848 *et seq*.

reduction" mandate in two rules: its Risk Reduction Program (RRP) rulemaking (for Class I and ISP railroads) and in its System Safety Program (SSP) rulemaking (for commuter and intercity passenger railroad carriers). Section 20156 further requires a railroad's safety risk reduction program to include a "fatigue management plan" meeting certain requirements. This rule fulfills the RSIA's mandate for railroads to include fatigue management plans in their safety risk reduction programs, by requiring railroads to develop and implement Fatigue Risk Management Programs (FRMPs) as part of their RRPs or SSPs.[2] A railroad implements its FRMP through an FRMP plan.

Consistent with the mandate of Section 20156, an FRMP is a comprehensive, system-oriented approach to safety in which a railroad determines its fatigue risk by identifying and analyzing applicable hazards and takes action to mitigate, if not eliminate, that fatigue risk.[3] Covered railroads are required to prepare a written FRMP plan and submit it to FRA for review and approval. Section 20156 requires covered railroads to consider the need to include in their plans elements addressing several factors that may influence employee fatigue, including scheduling practices and an employee's consecutive hours off-duty.[4] A railroad's written FRMP plan becomes part of its existing

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[2] Section 20156 uses the term "fatigue management plans" so sections of this preamble discussing the statutory requirements likewise use this term, as do the sections discussing the Railroad Safety Advisory Committee task statement on fatigue and the Fatigue Working Group. However, because section 20156 requires fatigue to be addressed as part of a railroad's safety risk reduction program, for consistency with the terminology used in FRA's final rules governing those programs (81 FR 53849 (Aug. 12, 2016), 85 FR 12826 (Mar. 4, 2020) and 85 FR 9262 (Feb. 18, 2020)), elsewhere throughout this proposed rule, FRA uses the terms "fatigue risk management program" (FRMP) and "FRMP plan." Notably, the RSAC recommended FRA use the term "fatigue risk management program" in its regulations (as opposed to the term "fatigue management plan" used in Section 20156), because it concluded that the term was broader and more appropriately encompassed the intent of the statutory mandate – i.e., to manage both the causes of and the risks related to fatigue).

[3] Risk is defined as a combination of the probability of an adverse event occurring and the potential severity of that adverse event. Fatigue increases the likelihood of certain negative events occurring. Therefore, reducing fatigue helps reduce fatigue-related risks. *See* United States Department of Transportation, *Partnering in Safety: Managing Fatigue: A Significant Problem Affecting Safety, Security, and Productivity*, 1999.

[4] Section 20156 requires railroads to consider including the following elements in their plans: (1) employee education and training on the physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue, based on the most current scientific and medical research and literature; (2) opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders; (3) effects on employee fatigue of an employee's

safety RRP or SSP plan. A railroad is also required to implement its FRA-approved FRMP plan, conduct an internal annual assessment of its FRMP, and, consistent with Section 20156's mandate, update its FRMP plan periodically. As part of a railroad safety risk reduction program, a railroad's FRMP is also subject to assessments by FRA.

The statutory mandate also requires a railroad to "consult with, employ good faith, and use its best efforts" to reach agreement with directly affected employees, including nonprofit employee labor organizations of such employees, on the contents of the plan.[5] FRA is aware that consultation on some RRP plans has not met the spirit of this statutory requirement. The intent of consultation is to engage with directly affected employees at all stages of plan development and program implementation. Ideally, railroads will look to their directly affected employees as partners throughout the process rather than as reviewers of a finished product. FRA expects consultation on FRMP plans will genuinely involve good faith and best efforts. FRA will separately provide further guidance on its expectations of the consultation process. In addition, the statute also provides that if a railroad and its directly affected employees, including labor organizations, are unable to reach consensus on a plan, the employees and labor organizations may file a statement explaining their views on the plan, and FRA shall consider those views during its review and approval of the plan.[6] FRA also notes that, as discussed in detail in the NPRM, the task forces of the Fatigue Working Group of the

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short-term or sustained response to emergency situations, such as derailments and natural disasters, or engagement in other intensive working conditions; (4) scheduling practices for employees, including innovative scheduling practices, on-duty call practices, work and rest cycles, increased consecutive days off for employees, changes in shift patterns, appropriate scheduling practices for varying types of work, and other aspects of employee scheduling that would reduce employee fatigue and cumulative sleep loss; (5) Methods to minimize accidents and incidents that occur as a result of working at times when scientific and medical research have shown increased fatigue disrupts employees' circadian rhythm; (6) alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty; (7) opportunities to obtain restful sleep at lodging facilities, including employee sleeping quarters provided by the railroad carrier; (8) the increase of the number of consecutive hours of off-duty rest, during which an employee receives no communication from the employing railroad carrier or its managers, supervisors, officers, or agents; (9) avoidance of abrupt changes in rest cycles for employees; and (10) additional elements that the Secretary considers appropriate. 49 U.S.C. 20156(f)(3).

[5] 49 U.S.C. 20156(g).

[6] 49 USC 20156(g)(2).

Railroad Safety Advisory Committee (RSAC), which included all industry stakeholders, extensively discussed methods of mitigation for the specific issues listed in the statute and developed documents that could be used in consultation discussions during the development of the FRMP plan. Those documents are included in the docket for this rulemaking.

For a more detailed discussion of the statutory and scientific foundation for this rulemaking, the process for identifying fatigue risks and developing the FRMP plan, and the regulatory process, including the RSAC working group, please see the Notice of Proposed Rulemaking.[7]

FRA recognizes that fatigue of railroad employees is a longstanding concern and challenge in the railroad industry. Accordingly, this rule is just one of several ongoing FRA efforts designed to address the adverse impacts and underlying causes of fatigue in the railroad industry. For example, FRA enforces the Federal Hours of Service (HOS) law under 49 U.S.C. chapter 211. These statutory requirements include maximum time on duty, minimum periods of uninterrupted rest, and cumulative limitations for train employees on consecutive on-duty days and hours in a calendar month. FRA takes seriously all violations of the HOS and closely monitors railroad compliance with statutory requirements, taking enforcement action under the statute as appropriate. FRA also recently conducted a survey of locomotive engineers and conductors to gain in-depth understanding of the factors that contribute to fatigue and the resulting impacts on safety. Survey questions addressed potential contributing factors to fatigue, such as work schedules, commute times, and work/life balance. FRA will use the survey results to identify research needs related to fatigue. The survey's descriptive data will also help FRA facilitate mutually beneficial solutions between railroad workers and management.

[7] 85 FR 83484 (Dec 22, 2020), available at https://www.federalregister.gov/documents/2020/12/22/2020-27085/fatigue-risk-management-programs-for-certain-passenger-and-freight-railroads.

Further, FRA investigates rail accidents and injuries to determine root causes and make recommendations to prevent further occurrences. For accidents suspected of being human-factor caused, FRA routinely performs fatigue analyses using tools such as the Fatigue Audit InterDyne (FAID) program. The FAID program is an analytical tool, used to identify, quantify and predict the likelihood of fatigue exposure associated with different work hours. In addition to this type of scientific analysis in the conduct of FRA's accident and incident investigations, as appropriate, FRA has revised its accident and incident investigation procedures to collect and analyze information related to the involved railroads' attendance policies and train lineup procedures as appropriate.

B. Summary of Benefits and Costs

FRA estimated the benefits and costs of this rule using discount rates of 3 and 7 percent over a ten-year time horizon. FRA presents monetized benefits and costs where possible and discusses those non-quantifiable elements qualitatively where data is lacking. Details on the estimated benefits and costs of this proposed rule can be found in the rule's economic analysis, which has been included in the docket.

In preparing the economic analysis, FRA estimated the total benefits and costs over 10 years for the implementation of an FRMP and the fatigue training mitigation for Class I railroads and the 50 ISP railroads subject to this proposed regulation (i.e., covered railroads). FRA was unable to quantify benefits or costs for passenger railroads and discusses the implementation of the regulation qualitatively within the Regulatory Evaluation.

FRA also estimated the total costs over 10 years to develop and monitor FRMP plans for the covered railroads. The regulation will also impose a new economic cost on the agency over the 10-year period, to review and audit the FRMPs.

Please see Table I.B for the total benefits and costs associated with the rule.

Table I.B. 10-Year Benefits and Costs – Training Only Mitigation (2018

Dollars, in Millions)

		Present Value 7%	Present Value 3%	Annualized at 7%	Annualized at 3%
Calculation Aid	**Costs**				
A	Training Only (low)	$2.02	$2.04	$0.29	$0.24
B	Training Only (high)	$4.13	$4.18	$0.59	$0.49
C	FRMP Plan Creation	$0.89	$1.04	$0.13	$0.12
D	Government Costs	$2.03	$2.59	$0.29	$0.30
A+C+D	**Total Cost (low)**	**$4.94**	**$5.68**	**$0.70**	**$0.67**
B+C+D	**Total Cost (high)**	**$7.05**	**$7.81**	**$1.00**	**$0.92**
A+C	Total Cost w/o Government Costs (low)	$2.91	$3.08	$0.41	$0.36
B+C	Total Cost w/o Government Costs (high)	$5.01	$5.22	$0.71	$0.61
	Benefits				
	Training Only (low)	**$5.41**	**$6.33**	**$0.77**	**$0.74**
	Training Only (high)	**$21.65**	**$25.34**	**$3.08**	**$2.97**

II. Response to Public Comments

FRA received 15 comments on the proposed rule, including comments from organizations representing railroad labor and management, experts in fatigue science, and other individual commenters.

A. Comments Pertaining to Particular Fatigue Management Strategies

Many commenters offered specific strategies for compliance with the rule that they believed should be required components of an FRMP, including medical recommendations, alterations to current scheduling practices, topics upon which to train, and many other possible fatigue mitigations. These comments are valuable and demonstrate the breadth of potential ways for railroads to comply. However, mandating any one of these strategies as a requirement of the final rule would contradict RSIA's directive that FRMPs be individually tailored to a railroad's unique operating circumstances and may not effectively reduce the fatigue of the railroad's employees or

reduce the probability of fatigue-related accidents and incidents. Therefore, FRA declines to adopt the suggested strategies as a requirement of the final rule.

The RSIA, in 49 U.S.C. 20156, requires a railroad, who must develop an FRMP, to tailor its program to its unique operating characteristics. Indeed, the railroad must take into account the varying circumstances of operations by the railroad on different parts of its system and prescribe the appropriate fatigue countermeasures to address its varying circumstances.[8] Accordingly, 49 U.S.C. 20156 does not require a railroad's FRMP to adopt any particular strategy or fatigue mitigation, but rather requires railroads to consider whether to include a variety of elements, as noted above. Ultimately railroads must design and implement their FRMPs to effectively reduce the fatigue experienced by their employees and to reduce the probability of fatigue-related accidents and incidents.[9]

Dr. Thomas Raslear and the Institutes for Behavior Resources (IBR) both commented that biomathematical models of fatigue and human performance are essential to monitor and manage fatigue and risk from fatigue, as a part of building an FRMP. While such models provide valuable information regarding fatigue caused by employees' work schedules, and the effectiveness of any work schedule mitigations intended to reduce fatigue, they are not so vital to fatigue management that a railroad could not create an effective FRMP without using them. Indeed, biomathematical models of fatigue and human performance are valuable tools for quantifying fatigue to create a regulatory threshold, as in the regulatory structure of the hours of service regulations for passenger train employees, 49 CFR part 228 subpart F. However, fatigue risk analysis does not require such a threshold to be effective. While some railroads may find it valuable to model schedules, other railroads may not identify fatigue risks that can be quantified by analysis of their employees' work schedules. In addition, many railroad operations are

[8] 49 U.S.C. 20156(f)(2).
[9] *See* 49 U.S.C. 20156(f)(3) (specifying elements railroads must consider the need to address in an FRMP).

unscheduled, and therefore are impossible to model prospectively. Ultimately, these recommendations to require the analysis of fatigue using biomathematical models are requirements that FRA declines to adopt. Similarly, FRA declines to require biomathematical modeling as a universal evaluation process; while FRA believes that biomathematical models of fatigue and human performance provide valuable quantitative methods of evaluating the success of an FRMP, they are not useful for all situations.

IBR also expresses concern that railroads will not keep sufficient records to allow for effective enforcement of the rule, because there is not a specific recordkeeping requirement. However, it would be impossible for FRA to pre-emptively list what records would be necessary to prove that each railroad is in compliance with its particular plan. Railroads have a statutory obligation to create and implement FRMPs, and it is in the railroads' interests to keep the records necessary for FRA to ascertain whether a railroad is complying with its FRMP plan, even without a specific requirement that they keep any particular records.

NTSB was supportive of the NPRM, but suggested FRA should require railroads to employ personnel trained to make fatigue determinations, especially since not all railroads will use biomathematical models to make those determinations, and that FRA should require railroads to collect and evaluate all employee medical information necessary to make an assessment for medical conditions or medications that cause fatigue. Railroads are required to develop and implement an FRMP tailored to their particular circumstances, and FRA will not require specific personnel decisions or the gathering or evaluation of particular information that may not be appropriate for every situation. In addition, FRA could provide assistance to railroads that need help with modeling schedules, such as short line railroads.

The Brotherhood of Locomotive Engineers and Trainmen (BLET) and the Transportation Division of the International Association of Sheet Metal, Air, Rail, and

Transportation Workers (SMART-TD) and individual commenters also discuss railroad scheduling practices; these scheduling practices may be addressed in a railroad's FRMP plan, but it is contrary to the structure and aim of this rulemaking to mandate any particular scheduling practice.

Similarly, it is outside the scope of the rule to prohibit, as BLET and SMART suggest, inward-facing cameras that may be a hindrance to employees who wish to nap while on duty, even if railroad policies permit it. In addition, policies that would permit napping in certain circumstances are a strategy a railroad could, in consultation with its employees, choose to implement to mitigate fatigue, but FRA does not require or prohibit such policies.

B. Comments Pertaining to Employee Involvement

BLET and SMART-TD filed a joint comment discussing the employee consultation portion of the statutory mandate and the present rulemaking. Several individual commenters also discussed the consultation requirement. This consultation is mandated by Congress in the RSIA (49 USC 20156(g)). BLET and SMART-TD raise the issue of collective bargaining agreements, asserting that, from their experience in the collective bargaining arena, railroads are not willing to negotiate on attendance policies or other fatigue-related matters. However, as FRA has stated in the past, interpreting existing collective bargaining agreements, and engaging in their negotiation, is outside of the agency's power. Collective bargaining is an activity separate and apart from the consultation requirements of 49 U.S.C. 20156(g) ("Consensus"). The statutory mandate requires a railroad to "consult with, employ good faith, and use its best efforts" to reach agreement with directly affected employees, including nonprofit employee labor organizations of such employees, on the contents of the plan; the SSP and RRP regulations require approved plans to have a process for consultation for subsequent amendments, including the amendment of those plans to add the FRMP plan. Because

compliance with crafting and implementing an FRMP entails periodic review and reassessment of the contents of the plan, the consultation obligation applies to implementation of the plans as well. This consultation obligation is not a part of collective bargaining agreements and exists outside of that structure. Non-profit employee labor organizations are entitled by statute to provide input into the FRMP plan, and they also have a right to submit a statement to FRA when FRA considers the first plan and subsequent plan amendments.

BLET and SMART-TD ask if the rule permits them to file comments on updated plans with changes the railroad indicates to be non-substantive, where FRA approval is not required. FRA welcomes comment whenever there is an issue of railroad safety. An employee, group of employees, or union organization, etc., is free to comment on an FRMP update submission that they contend is, in fact, substantive, and such a filing could cause FRA to determine that substantive changes exist and the amended FRMP plan is subject to FRA review and approval.

C. Comments Pertaining to the Regulatory Timeline

Several commenters expressed concern with railroads' ability to comply with the time prescribed for both developing and implementing FRMP plans and programs. Some comments exhibited confusion about when elements of the regulation become effective. In the proposed rule, FRA prescribed that FRMP plans would be required to be submitted for review and approval no later than either six months after the effective date of the final rule, or the applicable timeline for filing of the railroad's SSP plan or RRP plan. Many commenters, including the Association of American Railroads (AAR) and the American Short Line Regional Railroad Association (ASLRRA) in their joint comment, and the American Public Transportation Association (APTA), commented that six months was an insufficient amount of time to prepare FRMP plans.

AAR and ASLRRA assert that six months from the effective date of the rule is insufficient time to comply, estimating that it will take thousands of hours for railroads to formulate their fatigue risk management plans. However, these estimates lacked detail indicating how they were derived or an evidentiary basis for their adoption. AAR and ASLRRA note how much effort railroads have already exerted to manage risk from fatigue; FRA accounts for that effort in arriving at its estimate of how long it will take railroads to create compliant FRMP plans. The estimate of costs is the marginal cost imposed by the existence of the rule. Because many railroads are already working to address risk from fatigue, it will not take long to formalize those efforts into a discrete plan. The commenters' extreme estimates of time required to create FRMP plans are not consistent with FRA's understanding of how FRMP plans fit into the structure of system safety plans and risk reduction plans. FRA delayed promulgation of this rule to complete the SSP and RRP rulemakings, as the agency views fatigue risk management plans as a component of system safety plans and risk reduction plans, rather than an entirely separate effort that might require something closer to the labor estimated by these commenters. As a routine part of estimating the benefits and costs of rulemakings, FRA assumes that entities required to comply with a rule will employ an efficient method. As an example, APTA notes that its members have taken fatigue mitigation efforts prior to this rule, including compliance with the substantive regulations for train employee hours of service in 49 CFR part 228 subpart F. Passenger railroad operations can use existing programs and modeling performed for compliance with that prior regulation as a starting point for development of an FRMP plan, though compliance with the passenger train employee hours of service regulation does not cover all employees required to be covered by the statutory mandate for FRMP plans. Further, the formulation of an FRMP plan does not require a different plan for each craft of employee service the plan addresses. While different crafts may have different norms as to work schedules, fatigue risk

analysis is predicated on fatigue having the same base biological effects on employees, regardless of what form their work takes, such that the planning is not expected to wildly differ between crafts. Instead, FRA anticipates that many entities will create a master FRMP plan, that includes minor modifications to account for differences in crafts, to reflect the specific ways in which those crafts differ. The description of processes and procedures (i.e., the plan) could be the same across crafts, but with different hazards and mitigations (i.e., the program). Railroads subject to this rule are familiar with safety management systems through their work to comply with the SSP and RRP rules, and FRA performs outreach to smaller entities to help them comply with the SSP, RRP, and FRMP rules. Further, with respect to training mitigations, there is a significant amount of material railroads could draw from, including FRA resources such as the Railroaders' Guide to Healthy Sleep.[10]

In an effort to reduce regulatory burden and simplify the rule, the final rule requires that FRMP plans shall be filed within a year of the effective date of this rule, July 13, 2023. The rule also provides that railroads, who are not presently required to submit an SSP or RRP but become required to do so in the future, are required to submit an FRMP plan as a component of their respective SSP plan or RRP plan in accordance with the timelines for SSP plans and RRP plans respectively. Before a railroad is required to begin implementing the FRMP plan, it must first be reviewed and approved by FRA. The three-year implementation period does not begin until the date of FRA approval of the plan, at which point it becomes a component of the applicable SSP plan or RRP plan, with implementation of the plan required within the three years prescribed by the rule. FRA has also removed the provisions in the proposed rule (proposed §§

[10] https://railroadersleep.fra.dot.gov/. Originally launched in 2012, the Railroaders' Guide to Healthy Sleep website is a non-regulatory, educational resource. Designed for railroads and their support networks, the website provides scientifically valid information about the importance of sleep, tools to monitor and self-assess risks for sleep disorders, and practical strategies for improving sleep health.

270.409(e) and 271.609(e), that would have required the amended SSP plan or RRP plan be resubmitted after FRA has approved the addition of the FRMP plan; FRA approval of the FRMP plan amends the respective SSP plan or RRP plan without the need for an additional filing.

In addition, APTA further commented that FRA's review and approval timeline is excessive and will add to the costs of the rule and suggests that a plan be passively approved by FRA if the agency has not rejected it within 30 days. However, the timelines set in the rule for FRA approval are consistent with the timelines for system safety and risk reduction plans, and FRA's experience with reviewing and approving those plans gives the agency confidence that it can handle the receipt, review, and approval of compliant FRMP plans with the same efficiency.

The aim of the rule is for FRA, railroads, and labor organizations to work collaboratively over time to reduce the risk from fatigue in the rail industry through cycles of plan development, review, approval, and implementation. For this reason, FRA also is not adopting APTA's suggestion that only "substantive" changes to the FRMP plan need be submitted to FRA. To determine if railroads are complying with their FRMP plans, FRA must necessarily have the complete FRMP plans in their current forms. In the SSP and RRP rules, FRA spoke very clearly regarding the narrow set of amendments that do not require FRA approval: "adding or changing a name, title, address, or telephone number of a person."[11] All other amendments must follow the approval process.

D. Comments Pertaining to the Contents of FRMP plans

In its comment, APTA characterizes FRA's discussion in the NPRM of signs and symptoms of fatigue as a requirement to monitor these signs and symptoms on all employees at all times. The rule does not do so. Rather, FRA explains the work product

[11] 49 CFR 270.201(c)(1)(ii). *See also* 49 CFR 271.303(a)(1).

of the Education and Training Task Force of the Railroad Safety Advisory Committee to include, as a basic element of a fatigue training and education, a review of the signs and symptoms of fatigue as a human biological factor, as naturally follows from the definition of fatigue.

Dr. Raslear similarly expresses concern that FRA has not been sufficiently clear as to what constitutes a fatigue-related safety hazard. However, the lack of specificity is due to the nature of the individualized fatigue risk analysis each railroad must complete. The fatigue-related safety hazards will vary from railroad to railroad, as they are closely related to the specifics of operations. In crafting this rule, FRA is looking at fatigue holistically, and it would be contrary to that effort to craft a prescriptive list of fatigue-related safety hazards. Any list FRA could create would create a false sense of exclusivity, while likely missing hazards and becoming outdated as railroad practices change. Railroads might then only look at the elements on the list, regardless of the actual fatigue-related safety hazards in their operations. By not imposing this degree of specificity, each railroad will be able to address the fatigue hazards in its operations in a way that will give the railroad the flexibility to meaningfully reduce the most critical fatigue risks in its operations.

APTA also interprets FRA's definition of fatigue "as primarily related to mental fatigue as opposed to physical fatigue." This is not the case, as the definition specifically includes physical factors and encompasses fatigue generally, without differentiating between "mental" and "physical" fatigue.

APTA also asserts that the FRA estimates of the costs of creating and maintaining FRMP plans does not include the cost of establishing a fatigue committee or consultation with employees. However, there is not a requirement for a standing committee for this rule; the rule is intended to fit within the structure created by the SSP and RRP rulemakings, so as to minimize compliance costs.

BLET and SMART-TD express concern over the quality of training provided under FRMP plans. BLET and SMART-TD are concerned that lackluster training will impede the ability of FRMPs to achieve results. FRA notes that training and education can (and is expected to) vary among railroads and even within railroads, between different crafts, based on differences in operations. These variations will allow each railroad to create training and education information that is targeted to its employees, or a specific subset of employees, and deploy that information in a manner that is best received by the target audience. FRA will review and approve plans based on their merit and will audit programs to ensure efficacy. Different forms of education may be more or less effective in different situations. A pamphlet may be an invaluable quick reference in certain situations, just as an all-day, in-person, classroom training session may or may not communicate useful information. FRA also notes that the type of training is expected to be tailored to the nature of the railroads creating the FRMP plans (e.g., the size of the railroad; the nature and scope of its operations; the nature and extent of fatigue risks; etc.) and consequently result in different plans and different training.

E. Other Comments

AAR and ASLRRA assert that FRMP plans should not consider contractors, arguing that to do so would go beyond Congressional intent. However, the statute makes clear that contractors should be included. In defining the set of employees included within FRMP plans, Congress first points to chapter 211 of United States Code Title 49. That chapter, defining the statutory requirements for hours of service of some "employees," explicitly includes contractors. Further, in the RSIA, Congress amended the definition of a signal employee in that chapter to ensure that contractors were included. To allow railroads to exclude such employees from their FRMPs would defy explicit Congressional action. Consequently, under the "whole statute" canon of

interpretation,[12] the RSIA requirement for FRMPs must be construed to be harmonious with this concurrent legislative change to the hours of service laws. It would make little sense for Congress to address the fatigue experienced by employees of contractors and subcontractors, by including such contractors within the hours of service laws, and yet simultaneously exclude employees of contractors and subcontractors from the mandate to create railroad fatigue risk management plans. Accordingly, FRA concludes that the statute requires contractors and subcontractors to be included within the scope of a railroad's FRMP.

APTA requests that the information protections that were a key element of SSP plans and RRP plans also apply to FRMP plans. Because the data protections are already in force for SSP plans and RRP plans, and because FRMP plans are a Congressionally-mandated element of those plans, the data protections applicable to those two rules are already in force upon the effective date of this rule for the purpose of development and implementation of FRMP plans.

Several commenters discuss the rule in relation to crew size. However, those comments are outside the scope of this rulemaking and are not discussed here.

Several commenters suggested diagnostic methods for determining if affected employees have fatigue disorders that may require mitigation. While those comments may be useful to railroads who create the plans, this rule does not require the use of any particular diagnostic methods.

One commenter requests that FRA regulate the electrical sockets of lodging facilities for affected employees, so that employees are guaranteed to be able to power medical equipment necessary for some sleep disorders. FRA lacks the authority to regulate lodging facilities, except where the railroad is directly operating the lodging. However, these issues may be addressed with the railroad during the consultation process

[12] Sutherland Statutory Construction section 46:5.

for the FRMP plan, and, if the plan includes a dispute resolution process for lodging issues[13] employees could utilize that process if issues arise that prevent an employee getting sufficient rest.

One commenter notes that studies from the trucking industry may be a helpful resource. While, as FRA noted above, fatigue risk analysis is predicated on fatigue having the same base biological effects on employees, FRA also notes that the hours of service regime for the trucking industry is very different than that of the railroad industry.

An individual commenter explains his experience with work policies requiring employees to work 27 of 30 days per month. The Congressional mandate for FRMP plans dictates that covered railroads "consider the need to" address employee scheduling practices.[14] Accordingly, FRA would expect that a railroad with a scheduling practice requiring employees to work with only three days off per month would address that practice in its FRMP and indicate how the railroad is addressing the fatigue risks identified with such a schedule.

The American Academy of Sleep Medicine draws attention to its conclusion that work shifts poorly aligned to circadian rhythms of employees pose potential fatigue risks. Such potential risks are among the factors a railroad may likely need to consider when considering scheduling in general as part of FRMP development and implementation.

BLET and SMART-TD request an amendment to the rule to require reconsideration of a railroad's FRMP plan and its implementation, after any fatigue-related accident or injury. While a particular accident or incident may be cause for FRA to review a plan and its implementation, reviewing the plan after each accident or incident runs the risk of undermining the wider hazard analysis. Reviewing the FRMP plan after every accident or incident would be a piece-meal analysis, and it would move

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[13] For more discussion, see Section III of the NPRM, 85 FR 83484 at 83487.
[14] 49 U.S.C. 20156(f)(3)(D).

away from the comprehensive systems approach to improving safety at the heart of this rule. However, when investigating any fatigue-related accident, FRA will consider the railroad's compliance with its FRMP. Additionally, FRA always has the right to reopen and reconsider its approval of an FRMP, as it does any other FRA approvals, in light of information related to rail safety not previously considered.

Several commenters discussed "precision scheduled railroading." FRA understands that many in the railroad industry use this term for varied and different scheduling practices. Such practices may be addressed in railroads' FRMP plans, subject to the process for such plans, which includes both employee consultation and FRA review and approval. FRA's understanding of precision scheduled railroading is that railroads claim it optimizes railroad operations for scheduled movement of trains. Such a system must include limitations such as the hours of service laws, but it could create fatigue-related safety hazards, and railroads are required to consider their scheduling practices as part of the creation of FRMP plans.

Dr. Raslear suggests that, as a part of FRA enforcement of the rule, the agency should periodically analyze a sample of railroad schedules using a biomathematical model of fatigue and human performance, to quantify the status of fatigue in the railroad industry, and accordingly, require railroads to provide FRA with schedules to perform such analysis. The statute and this regulation permit FRA to analyze railroad schedules using a biomathematical model, and FRA will conduct such analyses as appropriate.

The statute requires FRA to annually review compliance with FRMP plans. To this end, FRA requires railroads to annually make an internal assessment of the FRMP, and FRA reviews these assessments. In addition, FRA possesses authority to audit programs for compliance in connection with its enforcement authority. As a part of its oversight, FRA may run railroad schedules through a biomathematical model of fatigue and performance. Moreover, FRA declines to limit the scope of evaluation to a particular

moment in time. Rather, FRA expects railroads to look at trends as a part of the required periodic safety assessments.

III. Section-by-Section Analysis

FRA amends 49 CFR part 270 (SSP) by adding a new subpart E, and 49 CFR part 271 (RRP) by adding new subpart G. Each of these new subparts are titled "Fatigue Risk Management Programs;" are substantively identical; and set forth the requirements for railroads to develop and implement FRMPs as part of their SSPs or RRPs. FRA also amends: § 270.103(a)(1) to ensure a railroad's SSP plan includes subpart E, by replacing the word "section" with the word "part"; § 271.101(a) by adding an FRMP to the list of required elements of an RRP; and § 271.201, to include an FRMP plan as a required component of an RRP plan. FRA received no comments on its proposed revisions to §§ 270.103, 270.101, and 271.201, and is therefore adopting these revisions as proposed.

The new subparts require each railroad, subject to part 270 or part 271 (covered railroads), to establish and implement an FRMP that is supported by an FRA-approved written FRMP plan, as a component of a railroad's SSP or RRP. This rule also requires covered railroads to review their FRMP annually, and if necessary, make FRA-approved updates to their plans after consultation with affected employees. FRA is promulgating this rule in its effort to improve rail safety continually and to satisfy the statutory mandate in 49 U.S.C. 20156.

Sections 270.401 and 271.601—Definitions

Sections 270.401 and 271.601 contain definitions for terms used in this rule. The sections include definitions for the terms: contributing factor, fatigue, fatigue-risk analysis, FRMP, FRMP plan, and safety-related railroad employee. The definitions are intended to clarify the meaning of important terms used in this rule and to minimize potential misinterpretation of the regulations. FRA received comments only on the definition of fatigue, as discussed in Section II, Response to Comments, above. FRA has

not revised any of its proposed definitions in response to comments and is adopting the definitions as proposed.

Sections 270.403 and 271.603—Purpose and Scope of an FRMP

Sections 270.403 and 271.603 explain the purpose and scope of the rule. FRA received no comments on this section, and adopts it as proposed.

Sections 270.405 and 271.605—General Requirements; Procedure

These sections set forth the rule's general requirements. FRA received no comments related to these sections, and therefore adopts paragraphs (a) and (b) as proposed, and revises paragraphs (c) and (d) as described below.

Paragraphs (c) of these sections require railroads to submit their FRMP plans to FRA for approval either within one year of effective date of a final rule in this proceeding or within the applicable existing timelines in parts 270 and 271 for filing SSP or RRP plans, whichever is later. These paragraphs would also require railroads to follow the existing processes in parts 270 and 271 for submitting updates of their FRMP plans to FRA for approval. As discussed above, FRA revised this timeline in response to comments suggesting railroads needed additional time.

Paragraph (d) requires FRA to approve or disapprove railroads' FRMP plans (and any updates) under the existing approval processes in parts 270 and 271 applicable to FRA approval of railroad SSP plans and RRP plans. Unlike the proposed rule, which included a separate requirement to resubmit the SSP plan or RRP plan, including the FRMP plan as a component, the final rule construes the filing and approval of an FRMP plan to be a process by which the applicable SSP plan or RRP plan is amended to incorporate the FRMP plan as a component. This eliminates the need for railroads, having received FRA approval for the FRMP plan, to then submit their SSP plan or RRP plan for FRA to review the incorporation of the FRMP plan. Instead, the SSP plan or RRP plan is amended to include the FRMP plan upon FRA approval of the FRMP plan.

Sections 270.407 and 271.607—Requirements for an FRMP

Sections 270.407 and 271.607 set forth the requirements for railroads' FRMPs. FRA received comments on the requirements for an FRMP, as discussed in the Response to Comments in Section II above, but has not revised the text of these sections based on those comments, and adopts these sections as proposed.

Sections 270.409 and 271.609—Requirements for an FRMP Plan

Sections 270.409 and 271.609 require a railroad to adopt and implement its FRMP through an FRMP plan that meets certain requirements. FRA received comments on various aspects of the FRMP plan, as discussed in the Response to Comments in Section II above. FRA has not revised the text of paragraphs (a) through (d) of §§ 270.409 and 271.609, and therefore adopts them as proposed.

Paragraph (e) of §§ 270.409 and 271.609, as proposed, would have required that a railroad submit its FRMP plan to FRA by amending its SSP plan or RRP plan. However, FRA approval of an FRMP plan amends the railroads' SSP plan or RRP plan to incorporate the FRMP plan as a component. FRA has therefore eliminated the duplicative requirement on railroads to submit the SSP plan or RRP plan amended solely to include the FRA-approved FRMP plan. Accordingly, proposed paragraph (e) has been removed.

IV. Regulatory Impact and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This rule is a non-significant regulatory action within the meaning of Executive Order 12866 (EO 12866) and DOT Order 2100.6A Rulemaking and Guidance Procedures.

FRA has prepared and placed a Regulatory Evaluation addressing the economic impact of this rule in the docket (Docket No. FRA-2015-0122). The Regulatory Evaluation contains estimates of the benefits and costs of this rule that are likely to be

incurred over a ten-year period. FRA estimated the benefits and costs of this rule using discount rates of 3 and 7 percent. FRA was unable to quantify the benefits and costs for all the elements within the regulation for both passenger and freight railroads. FRA presents monetized benefits and costs where possible and discusses those non-quantified elements qualitatively where data was lacking.

Section 103 of the RSIA mandates that FRA (as delegated by the Secretary) require certain railroads to establish a railroad safety risk reduction program, of which an FRMP is a required component. This rule is part of FRA's efforts to improve rail safety continually and to satisfy the statutory mandate in the RSIA.

The Regulatory Evaluation analyzes two mitigation strategies to quantify potential benefits and costs that railroads may achieve through the regulation: (1) training and (2) screening for sleep conditions. However, there is a high amount of uncertainty in FRA's benefit and cost estimates because the RSIA and this regulation gives railroads the flexibility to select the mitigation strategies most appropriate for their operations and identified risks.

The benefits and costs[15] associated with the rule are presented in Table VII-1 below:

Table VII-1. Summary of Total 10-Year Impact (2018 Dollars) (in millions)

		Present Value 7%	Present Value 3%	Annualized at 7%	Annualized at 3%
Calculation Aid	**Costs**				
A	Training Only (low)	$2.02	$2.04	$0.29	$0.24
B	Training Only (high)	$4.13	$4.18	$0.59	$0.49
C	FRMP Plan Creation	$0.89	$1.04	$0.13	$0.12
D	Government Costs	$2.03	$2.59	$0.29	$0.30
A+C+D	**Total Cost (low)**	**$4.94**	**$5.68**	**$0.70**	**$0.67**
B+C+D	**Total Cost (high)**	**$7.05**	**$7.81**	**$1.00**	**$0.92**
A+C	Total Cost w/o Government Costs (low)	$2.91	$3.08	$0.41	$0.36

[15] Unless otherwise noted, benefits and costs are presented in 2018 dollars.

B+C	Total Cost w/o Government Costs (high)	$5.01	$5.22	$0.71	$0.61
	Benefits				
	Training Only (low)	**$5.41**	**$6.33**	**$0.77**	**$0.74**
	Training Only (high)	**$21.65**	**$25.34**	**$3.08**	**$2.97**

In comparison to the NPRM, the final rule provides the railroads additional time to submit FRMP plans to FRA. A railroad's plan submission may still occur in the same year as before the time extension, but pushed out later in the same year, or it may occur in the following year during the ten-year period of analysis. The costs will decrease slightly because of this flexibility, but the overall cost estimate remains primarily the same as in the NPRM. The final rule also clarifies that a railroad's approved SSP plan or RRP plan does not need to be resubmitted to FRA when amended with the FRA-approved FRMP plan. The NPRM regulatory analysis assumed only one submission and therefore is unchanged.

FRA's analysis shows there are many factors that are difficult to quantify both for passenger and freight railroads. Where possible, FRA's Regulatory Evaluation estimates benefits and costs for each element within the regulation. Given current railroad business and operational practices, this analysis demonstrates the fatigue training element, is an element that all railroads will most likely implement. FRA also believes the napping mitigation presented within the Regulatory Evaluation's alternative analysis would be cost beneficial in certain instances. In an effort to not overestimate the benefits associated with the regulation, FRA does not present the findings regarding napping in the main analysis of the Regulatory Evaluation. FRA believes that there could be significant reduction in fatigue with the implementation of a napping mitigation, based on various supporting studies, and the fact that Class I railroads under the General Code of Operating Rules (GCOR) already have policies supporting napping.

FRA requested comments on the methods and inputs used in the Regulatory

Evaluation. While comments relevant to the economic analysis are discussed briefly here, please see Section II of the preamble, above, for a fuller discussion of the comments received. Many commenters said the cost of mitigations for compliance with the rule would be high. As rational actors, railroads are expected to choose mitigations most appropriate for their operations and employees. FRA reiterates that railroads are not required to implement any particular mitigation, except training as a prerequisite requirement. The railroads also asserted in their comments that developing FRMP plans is more burdensome than FRA's estimate. Similar to choosing mitigations, FRA assumes railroads will use efficient means to comply with the regulation. For example, existing work done by the railroads can count toward mitigations in a railroad's FRMP. FRA further suggests that railroads may formulate a master FRMP plan that includes minor modifications to account for variations in different crafts of employees. With regard to administrative costs, APTA was concerned about the time that FRA's review might take, adding to costs, and suggested FRA passively approve plans not approved in a timely manner. FRA notes the timelines in this final rule follow the timelines in the SSP and RRP rules. Overall, the aim is for a process of continuous improvement in safety.

The labor organizations also commented that Congress does not perform benefit-cost analysis and to not let unquantifiable benefits undermine the FRMP rulemaking. FRA responds that it is bound by executive orders and Departmental guidance to perform benefit-cost analysis. FRA presents its analysis for stakeholders, and identifies quantitative and qualitative factors, along with noting where information is uncertain or unavailable, for transparency.

B. Regulatory Flexibility Act and Executive Order 13272

The Regulatory Flexibility Act (RFA) of 1980 allows the Secretary of Transportation to certify a rule if that rule will not have a significant economic impact on a substantial number of small entities. FRA published an Initial Regulatory Flexibility

Assessment (IRFA) to aid the public in commenting on the potential small business impacts of the proposed FRMP NPRM requirements. AAR and ASLRRA jointly submitted comments to the NPRM. In particular, AAR and ASLRRA said that short line railroads may lack resources for fatigue plans, and to manage contractor groups. With regard to resources, FRA has granted additional time for all railroads to submit plans to FRA. Also, smaller railroads are likely to have simpler operations than Class I railroads, and therefore their plans will likely be less complex. That is, smaller railroads' operations involve less equipment and fewer employees. In addition, FRA provides outreach and assistance for small railroads. Regarding contractors, FRA has included contractors in FRMP plans, as it would be illogical for Congress to include them in hours of service laws, but not in fatigue planning. Please refer to the preamble comment discussion, in Section II, above, for a more detailed discussion of these comments.

This rule requires an ISP railroad to develop and implement an FRMP under an RRP plan that FRA has reviewed and approved. (This analysis uses the same cohort of ISP railroads as the RRP final rule.) Since railroads have the flexibility to adjust their FRMPs to their specific risks, FRA expects the economic impact on small entities to be proportional to the number of employees, as well as the mitigation strategies implemented.

For the purposes of this analysis, the 704 Class III freight railroads [16]that operate on the general rail system are considered small entities and could potentially be impacted by this final rule.[17] The final rule estimates that 50 ISP railroads will be identified over the ten-year period. FRA can identify Class II or Class III railroads as ISP. If all

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[16] FRA 2020 Form 6180.55 Operational Data includes Railroad Class and Number of Employees. *See* https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/on_the_fly_download.aspx. In 2020, there were 744 Class III railroads: 704 freight railroads and 40 Tourist Railroads. Tourist railroads are not subject to the final rule.

[17] FRA defines "small entities" as entities that meet the revenue requirements of a Class III railroad as set forth in 49 CFR 1201.1-1, which is $20 million or less in annual revenues as adjusted for inflation. *See* 68 FR 24891, May 9, 2003. In addition, note both the SSP rule and RRP rule exempt railroads not on the general system. *See* 49 CFR 270.3(b) and 49 CFR 271.3(b).

railroads identified as ISP are Class IIIs, only 7 percent of the 704 Class III railroads would be affected by the final rule.

The ASLRRA reports the average Class III railroad has annual revenues of $4.75 million and 22 railroad employees. To measure the economic impact on an individual Class III ISP railroad, FRA compared the average Class III revenue[18] to the final rule's cost. FRA used the requirements of the final rule to estimate the ISP railroad compliance costs. While ISP railroad program consulting costs are the same for ISP railroads regardless of size, the costs to develop, implement, and update ISP railroad plans, and to provide employee training, vary from low to high depending on whether firms employ below or above the Class III railroad industry average. The average annual cost of ISP railroad compliance is provided below in Table 1.

Table 1. ISP Railroad Annualized Cost by Firm Size

Total ISP Costs per Firm Discounted at 7% rate					
	All ISP Firms	Low		High	
Year	FRMP Plan*	Develop Training Program	Employee Training	Develop Training Program	Employee Training
1	$11	$3,031	$7,241	$12,124	$14,481
2	$634	$2,833	$6,767	$11,331	$13,534
3	$951	$2,647	$6,324	$10,590	$12,648
4	$1,178	$2,474	$5,911	$9,897	$11,821
5	$1,359	$2,312	$5,524	$9,249	$11,048
6	$1,541	$2,161	$5,162	$8,644	$10,325
7	$1,722	$2,020	$4,825	$8,079	$9,649
8	$1,904	$1,888	$4,509	$7,550	$9,018
9	$2,085	$1,764	$4,214	$7,056	$8,428
10	$2,267	$1,649	$3,938	$6,595	$7,877
Total	$13,651	$22,779	$54,415	$91,115	$108,829
Annualized 7% rate	$1,944	$3,243	$7,747	$12,973	$15,495
Annual Total Cost per Firm		Low	$12,934	High	$30,411
Annual Average ISP Cost =$22,000 (average of Low and High)					

*Includes preliminary meeting and notification to labor organizations, preparation of an FRMP plan, further consultation, and amendments that might occur.

[18]American Short Line and Regional Railroad Association, *Facts and Figures,* 12, (2017). (A 2019 edition is available that is a reprint of the 2017 edition.).

The Class III (ISP) railroad costs range from $13,000 to $30,000 with an average cost of $22,000 for all small entities that could be affected by the final rule. FRA estimates this cost, as a percent of Class III railroad annual average revenues ($4.75 million), to be minimal at 0.46 percent.

Given that Class III railroads' size varies widely, FRA classified the small entities by the number of employees to further examine small entity impacts. The purpose is to determine if the "smaller" of the small entities would incur a significant economic impact. Table 2 presents the Class III railroads by number of employees using the 2020 data submitted by the Class III railroads on the FRA 2020 Form 6180.55.[19]

Table 2. Class III Railroads by Number of Employees

Number of Employees	*Number of Firms*	*Percent Firms*	*Total Number of Employees*	*Percent Total Employees*
1-8	385	55%	1,325	9%
9-22	144	20%	2,004	13%
23-100	147	21%	7,149	46%
101-200	22	3%	2,662	17%
201-883	6	1%	2,413	16%
Total	704	100%	15,553	100%

According to Table 2, most Class III railroads (55 percent) operate with fewer than 9 employees and 75 percent have less than 23 employees. The remaining 25 percent of Class III railroads employ 78 percent of all Class III employees. To estimate the maximum economic impact of the rule on the smallest Class III railroads (those with fewer than 9 employees), FRA compares one-third of average annual Class III revenue

[19] FRA 2020 Form 6180.55 Operational Data includes Railroad Class and Number of Employees. See https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/on_the_fly_download.aspx.

($1.58 million)[20] in Table 1. FRA assumes further that firms that employ 1/3 the number of employees as the average firm will have 1/3 the average revenues. This approach confirms a minimal loss of 1.9 percent of total revenue required for the smallest Class III railroads to cover the highest expected ISP costs in the worst case. Separately, the Regulatory Impact Analysis accompanying this rule estimates its safety benefits will equal or exceed ISP costs.

Consistent with the findings of FRA's IRFA, and determination that the economic impact of the rule will not be significant, the FRA Administrator hereby certifies that this rule will not have a significant economic impact on a substantial number of small entities.

C. Federalism

Executive Order 13132, "Federalism" (64 FR 43255, Aug. 10, 1999), requires FRA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." The Executive Order defines "policies that have federalism implications" to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal Government provides the funds necessary to pay the direct compliance costs incurred by State and local governments or the agency consults with State and local government officials early in the process of developing the regulation. Where a

[20] One third of Class III average annual revenue of $4.75M equals $1.58M. The high ISP cost is $30,411 or 1.9 percent of estimated small Class III revenue ($30,411/$1.58 million ≈1.9%). High ISP costs are used out of caution to not underestimate the impact.

regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

FRA analyzed this rule consistent with the principles and criteria contained in Executive Order 13132. FRA has determined the rule does not have substantial direct effects on States, on the relationship between the national government and States, or on the distribution of power and responsibilities among the various levels of government. In addition, FRA has determined this rule would not impose substantial direct compliance costs on State and local governments. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

This rule adds subpart E, Fatigue Management Plans, to 49 CFR part 270 and subpart G, Fatigue Management Plans, to 49 CFR part 271. FRA is not aware of any State with regulations similar to this rule. However, FRA notes that this part could have preemptive effect by the operation of law under 49 U.S.C. 20106. Section 20106 provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters), unless the State law, regulation, or order: (1) qualifies under the "essentially local safety or security hazard" exception to sec. 20106; (2) is not incompatible with a law, regulation, or order of the U.S. Government; and (3) does not unreasonably burden interstate commerce.

In sum, FRA analyzed this rule consistent with the principles and criteria in Executive Order 13132. FRA has determined this rule has no federalism implications and has determined it is not required to prepare a federalism summary impact statement for this proposed rule.

D. International Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The Act also requires consideration of international standards, and, where appropriate, that they be the basis for U.S. standards. This rulemaking is purely domestic in nature and will not affect trade opportunities for U.S. firms doing business overseas or for foreign firms doing business in the United States.

E. Paperwork Reduction Act

The information collection requirements in this final rule are being submitted for approval to OMB under the Paperwork Reduction Act of 1995.[21] The entire table contains the new information collection requirements and the estimated time to fulfill each requirement are as follows:

CFR Section	Respondent Universe	Total Annual Responses (A)	Average Time per Response (B)	Total Annual Burden Hours (C) = A * B	Total Annual Dollar Cost Equivalent (D)=C * wage rates[22]
270.409 – Fatigue Risk Management Program Plan (FRMP Plan) as part of its SSP – Comprehensive FRMP plan meeting all of this section's requirements and under Part 270 subpart C.	35 passenger railroads	11.67 plans	60 hours	700.20 hours	$61,198.88
– (c)(3)(ii) Annual internal FRMP Plan assessments/reports conducted by RRs	35 passenger railroads	11.67 reviews	16 hours	186.72 hours	$14,872.99
– FRMP plans found deficient by FRA and requiring amendment	35 passenger railroads	1.33 amended plans	30 hours	39.90 hours	$3,178.19
– Consultation requirements – RR consultation with its directly affected employees on FRMP Plan	35 passenger railroads	11.67 consultations (w/labor union reps.)	90 minutes	17.51 hours	$1,394.74
271.609 – FRMP Plan as part of its RRP – Comprehensive written FRMP Plan meeting all	7 Class I railroads	2.33 plans	90 hours	209.70 hours	$18,328.20

[21] 44 U.S.C. 3501 *et seq.*

[22] The dollar equivalent cost is derived from the 2018 Surface Transportation Board's Full Year Wage A&B data series using the appropriate employee group hourly wage rate that includes 75-percent overhead charges.

of this section's requirements and under Part 271 subpart d.	15 ISP railroads	3.33 plans	50 hours	166.50 hours	$14,552.43
– (c)(3)(ii) Annual internal FRMP Plan assessments/reports conducted by RRs	7 Class I +	2.33 reviews	22 hours	51.26 hours	$4,083.06
	15 ISP railroads	1.67 reviews	16 hours	26.72 hours	$2,128.35
– Consultation requirements – RR consultation with its directly affected employees on FRMP Plan	7 Class I railroads	2.33 consultations (w/labor union reps.)	90 minutes	3.50 hours	$278.79
	15 ISP railroads	5 consultations (w/labor union reps.)	1 hour	5 hours	$398.27
– FRMP plans found deficient by FRA and requiring amendment	7 Class I railroads	0.33 amended plan	40 hours	13.20 hours	$1,051.43
	15 ISP railroads	1 amended plan	20 hours	20 hours	$1,593.08
Totals	35 railroads	55 responses	N/A	1,440 hours	$123,058

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. For information or a copy of the paperwork package submitted to OMB, contact Ms. Hodan Wells, Information Collection Clearance Officer, at 202-493-0440.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them via e-mail to Ms. Wells at Hodan.Wells@dot.gov.

OMB is required to make a decision concerning the collection of information requirements contained in this rule between 30 and 60 days after publication of this document in the *Federal Register*. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. FRA is not authorized to impose a penalty on persons for violating information collection requirements that do not display a current OMB control number, if required. The current OMB control number for 49 CFR 270 and 271 is 2130-0633.

F. Environmental Assessment

FRA has evaluated this rule consistent with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321, *et seq*.), the Council of Environmental Quality's NEPA implementing regulations at 40 CFR parts 1500–1508, and FRA's NEPA implementing regulations at 23 CFR part 771 and determined that it is categorically excluded from environmental review and therefore does not require the preparation of an environmental assessment (EA) or environmental impact statement (EIS). Categorical exclusions (CEs) are actions identified in an agency's NEPA implementing regulations that do not normally have a significant impact on the environment and therefore do not require either an EA or EIS. *See* 40 CFR 1508.4. Specifically, FRA has determined that this proposed rule is categorically excluded from detailed environmental review pursuant to 23 CFR 771.116(c)(15), "[p]romulgation of rules, the issuance of policy statements, the waiver or modification of existing regulatory requirements, or discretionary approvals that do not result in significantly increased emissions of air or water pollutants or noise."

The purpose of this rulemaking is to establish requirements for certain railroads to develop and implement an FRMP, as one component of the railroads' larger railroad safety risk reduction programs. This rule does not directly or indirectly impact any environmental resources and will not result in significantly increased emissions of air or water pollutants or noise. Instead, the rule is likely to result in safety benefits. In analyzing the applicability of a CE, FRA must also consider whether unusual circumstances are present that would warrant a more detailed environmental review. *See* 23 CFR 771.116(b). FRA has concluded that no such unusual circumstances exist with respect to this regulation and the rule meets the requirements for categorical exclusion under 23 CFR 771.116(c)(15).

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, FRA has determined this undertaking has no potential to affect historic properties. *See* 16 U.S.C. 470. FRA has also determined that this rulemaking

does not approve a project resulting in a use of a resource protected by Section 4(f) of the Department of Transportation Act of 1966. *See* Department of Transportation Act of 1966, as amended (Pub. L. 89-670, 80 Stat. 931); 49 U.S.C. 303.

G. Executive Order 12898 (Environmental Justice)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and DOT Order 5610.2B[23] require DOT agencies to achieve environmental justice as part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, of their programs, policies, and activities on minority populations and low-income populations. The DOT Order instructs DOT agencies to address compliance with Executive Order 12898 and requirements within the DOT Order in rulemaking activities, as appropriate, and also requires consideration of the benefits of transportation programs, policies, and other activities where minority populations and low-income populations benefit, at a minimum, to the same level as the general population as a whole when determining impacts on minority and low-income populations. FRA has evaluated this rule under Executive Order 12898 and the DOT Order and has determined it would not cause disproportionately high and adverse human health and environmental effects on minority populations or low-income populations.

H. Unfunded Mandates Reform Act of 1995

Under Section 201 of the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531), each Federal agency "shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically

[23] Available at: https://www.transportation.gov/regulations/dot-order-56102b-department-transportation-actions-address-environmental-justice.

set forth in law)." Section 202 of the Act (2 U.S.C. 1532) further requires that "before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100,000,000 or more (adjusted annually for inflation) in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement" detailing the effect on State, local, and tribal governments and the private sector. This rule will not result in the expenditure, in the aggregate, of $100,000,000 or more (as adjusted annually for inflation), in any one year, and thus preparation of such a statement is not required.

I. Energy Impact

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any "significant energy action." 66 FR 28355, May 22, 2001. FRA evaluated this rule under Executive Order 13211, and has determined this NPRM is not a "significant energy action" under the Executive Order 13211.

List of Subjects

49 CFR Part 270

Fatigue, Penalties, Railroad safety, Reporting and recordkeeping requirements, System safety.

49 CFR Part 271

Fatigue, Penalties, Railroad safety, Reporting and recordkeeping requirements, Risk reduction.

The Final Rule

For the reasons discussed in the preamble, FRA amends chapter II, subtitle B of title 49, Code of Federal Regulations as follows:

PART 270- SYSTEM SAFETY PROGRAM

1. The authority citation for part 270 continues to read as follows:

Authority: 49 U.S.C. 20103, 20106-20107, 20118-20119, 20156, 21301, 21304, 21311; 28 U.S.C. 2461, note; and 49 CFR 1.89.

2. Amend § 270.103 by revising paragraph (a)(1) to read as follows:

§ 270.103 System safety program plan.

(a) * * *

(1) Each railroad subject to this part shall adopt and fully implement a system safety program through a written SSP plan that, at a minimum, contains the elements in this section and in subpart E of this part. This SSP plan shall be approved by FRA under the process specified in § 270.201.

* * * * *

3. Add subpart E to read as follows:

Subpart E—Fatigue Risk Management Programs

Sec.

Subpart E—Fatigue Risk Management Programs

§ 270.401 Definitions.

As used in this subpart—

Contributing factor means a circumstance or condition that helps cause a result.

Fatigue means a complex state characterized by a lack of alertness and reduced mental and physical performance, often accompanied by drowsiness.

Fatigue-risk analysis means a railroad's analysis of its operations that:

(1) Identifies and evaluates the fatigue-related railroad safety hazards on its system(s); and

(2) Determines the degree of risk associated with each of those hazards.

FRMP means a Fatigue Risk Management Program.

FRMP plan means a Fatigue Risk Management Program plan.

Safety-related railroad employee means:

(1) A person subject to 49 U.S.C. 21103, 21104, or 21105;

(2) Another person involved in railroad operations not subject to 49 U.S.C. 21103, 21104, or 21105;

(3) A person who inspects, installs, repairs or maintains track, roadbed, signal and communication systems, and electric traction systems including a roadway worker or railroad bridge worker;

(4) A hazmat employee defined under 49 U.S.C. 5102(3);

(5) A person who inspects, repairs, or maintains locomotives, passenger cars, or freight cars; or

(6) An employee of any person who utilizes or performs significant railroad safety-related services, as described in § 270.103(d)(2), if that employee performs a function identified in paragraphs (1) through (5) of this definition.

§ 270.403 Purpose and scope of a Fatigue Risk Management Program (FRMP).

(a) *Purpose*. The purpose of an FRMP is to improve railroad safety through structured, systematic, proactive processes and procedures that a railroad subject to this part develops and implements to identify and mitigate the effects of fatigue on its employees.

(b) *Scope*. A railroad shall:

(1) Design its FRMP to reduce the fatigue its safety-related railroad employees experience and to reduce the risk of railroad accidents, incidents, injuries, and fatalities where the fatigue of any of these employees is a contributing factor;

(2) Develop its FRMP by systematically identifying and evaluating the fatigue-related railroad safety hazards on its system, determining the degree of risk associated with each hazard, and managing those risks to reduce the fatigue that its safety-related railroad employees experience. This system-wide fatigue risk identification and evaluation process must account for the varying circumstances of a railroad's operations on different parts of its system; and

(3) Employ in its FRMP the fatigue risk mitigation strategies a railroad identifies as appropriate to address those varying circumstances.

§ 270.405 General requirements; procedure.

(a) Each railroad subject to this part shall:

(1) Establish and implement an FRMP as part of its SSP; and

(2) Establish an FRA-approved FRMP plan as a component of a railroad's FRA-approved SSP plan and then update its FRMP plan as necessary as part of the annual internal assessment of its SSP under § 270.303.

(b) A railroad's FRMP plan must explain the railroad's method of analysis of fatigue risks and the railroad's process(es) for implementing its FRMP.

(c)(1) A railroad shall submit an FRMP plan to FRA for approval no later than either the applicable timeline in § 270.201(a) for filing its SSP plan or July 13, 2023, whichever is later.

(2) A railroad shall submit updates to its FRMP plan under the process for amending its SSP plan in § 270.201(c).

(d) FRA shall review and approve or disapprove a railroad's FRMP plan and amendments to that plan under the process for reviewing SSP plans and amendments in §

270.201(b) and (c), respectively. FRA approval of a railroad's FRMP plan amends a railroad's SSP plan to include the FRMP plan as a component.

§ 270.407 Requirements for an FRMP.

(a) *In general*. An FRMP shall include an analysis of fatigue risks and mitigation strategies, as described in paragraphs (b) and (c) of this section.

(b) *Analysis of fatigue risks*. A railroad shall conduct a fatigue-risk analysis as part of its FRA-approved FRMP, which includes identification of fatigue-related railroad safety hazards, assessment of the risks associated with those hazards, and prioritization of risks for mitigation. At a minimum, a railroad shall consider the following categories of risk factors:

(1) General health and medical conditions that can affect the fatigue levels among the population of safety-related railroad employees;

(2) Scheduling issues that can affect the opportunities of safety-related railroad employees to obtain sufficient quality and quantity of sleep; and

(3) Characteristics of each job category of safety-related railroad employees work that can affect fatigue levels and risk for fatigue of those employees.

(c) *Mitigation strategies*. A railroad shall develop and implement mitigation strategies to reduce the risk of railroad accidents, incidents, injuries, and fatalities where fatigue of any of its safety-related employees is a contributing factor. At a minimum, in developing and implementing these mitigation strategies, a railroad shall consider the railroad's policies, practices, and communication related to its safety-related railroad employees.

(1) *Policies*. A railroad shall consider developing and implementing policies to reduce the risk of the exposure of its safety-related railroad employees to fatigue-related railroad safety hazards on its system. At a minimum, a railroad shall consider these policies:

(i) Providing opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders;

(ii) Identifying methods to minimize accidents and incidents that occur as a result of working at times when scientific and medical research have shown increased fatigue disrupts employees' circadian rhythms;

(iii) Developing and implementing alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty;

(iv) Increasing the number of consecutive hours of off-duty rest, during which an employee receives no communication from the employing railroad or its managers, supervisors, officers, or agents; and

(v) Avoiding abrupt changes in rest cycles for employees.

(2) *Practices*. A railroad shall consider developing and implementing operational practices to reduce the risk of exposure of its safety-related railroad employees to fatigue-related railroad safety hazards on its system. At a minimum, a railroad shall consider these practices:

(i) Minimizing the effects on employee fatigue of an employee's short-term or sustained response to emergency situations, such as derailments and natural disasters, or engagement in other intensive working conditions;

(ii) Developing and implementing scheduling practices for employees, including innovative scheduling practices, on-duty call practices, work and rest cycles, increased consecutive days off for employees, changes in shift patterns, appropriate scheduling practices for varying types of work, and other aspects of employee scheduling to reduce employee fatigue and cumulative sleep loss; and

(iii) Providing opportunities to obtain restful sleep at lodging facilities, including employee sleeping quarters provided by the railroad carrier.

(3) *Communications*. A railroad shall consider developing and implementing training, education, and outreach methods to deliver fatigue-related information effectively to its safety-related railroad employees. At a minimum, a railroad shall consider including in its employee education and training information on the physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue, based on the most current scientific and medical research and literature.

(d) *Evaluation*. A railroad shall develop and implement procedures and processes for monitoring and evaluating its FRMP to assess whether the FRMP effectively meets the goals its FRMP plan describes, as required under § 270.409(b).

(1) The evaluation shall include, at a minimum:

(i) Periodic monitoring of the railroad's operational environment to detect changes that may generate new hazards;

(ii) Analysis of the risks associated with any identified hazards; and

(iii) Periodic safety assessments to determine the need for changes to its mitigation strategies.

(2) A railroad shall evaluate newly-identified hazards, and hazards associated with ineffective mitigation strategies, through processes for analyzing fatigue risks described in the railroad's FRMP plan.

(3) Any necessary changes not addressed prior to a railroad's annual internal assessment must be included in the internal assessment improvement plans required under § 270.303.

§ 270.409 Requirements for an FRMP plan.

(a) *In general.* A railroad shall adopt and implement its FRMP through an FRA-approved FRMP plan, developed in consultation with directly affected employees as described under § 270.107. A railroad FRMP plan must contain the elements described

in this section. A railroad must submit the plan to FRA for approval under the criteria of subpart C.

(b) *Goals*. An FRMP plan must contain a statement that defines the specific fatigue-related goals of the FRMP and describes strategies for reaching those goals.

(c) *Methods*—(1) *Analysis of fatigue risk.* An FRMP plan shall describe a railroad's method(s) for conducting its fatigue-risk analysis as part of its FRMP. The description shall specify:

(i) The scope of the analysis, which is the covered population of safety-related railroad employees;

(ii) The processes a railroad will use to identify fatigue-related railroad safety hazards on its system and determine the degree of risk associated with each fatigue-related hazard identified;

(iii) The processes a railroad will use to compare and prioritize identified fatigue-related risks for mitigation purposes; and

(iv) The information sources a railroad will use to support ongoing identification of fatigue-related railroad safety hazards and determine the degree of risk associated with those hazards.

(2) *Mitigation strategies*. An FRMP plan shall describe a railroad's processes for:

(i) Identifying and selecting fatigue risk mitigation strategies; and

(ii) Monitoring identified fatigue-related railroad safety hazards.

(3) *Evaluation*. An FRMP plan shall describe:

(i) A railroad's processes for monitoring and evaluating the overall effectiveness of its FRMP and the effectiveness of fatigue-related mitigation strategies the railroad uses under § 270.407; and

(ii) A railroad's procedures for reviewing the FRMP as part of the annual internal assessment of its SSP under § 270.303 and for updating the FRMP plan under the process for amending its SSP plan under § 270.201(c).

(d) *FRMP implementation plan*. A railroad shall describe in its FRMP plan how it will implement its FRMP. This description must cover an implementation period not to exceed 36 months, and shall include:

(1) A description of the roles and responsibilities of each position or job function with significant responsibility for implementing the FRMP, including those held by employees, contractors who provide significant FRMP-related services, and other entities or persons that provide significant FRMP services;

(2) A timeline describing when certain milestones that must be met to implement the FRMP fully will be achieved. Implementation milestones shall be specific and measurable;

(3) A description of how a railroad may make significant changes to the FRMP plan under the process for amending its SSP plan in § 270.201(c); and

(4) The procedures for consultation with directly affected employees on any subsequent substantive amendments to the railroad's FRMP plan. The requirements of this section do not apply to non-substantive amendments (*e.g.*, amendments that update names and addresses of railroad personnel).

PART 271-RISK REDUCTION PROGRAM

4. The authority citation for part 271 continues to read as follows:

Authority: 49 U.S.C. 20103, 20106-20107, 20118-20119, 20156, 21301, 21304, 21311; 28 U.S.C. 2461, note; and 49 CFR 1.89**.**

5. Amend § 271.101 by revising paragraph (a) to read as follows:

§ 271.101 Risk reduction programs.

(a) *Program required*. Each railroad shall establish and fully implement an

RRP meeting the requirements of this part. An RRP shall systematically evaluate railroad safety hazards on a railroad's system and manage the resulting risks to reduce the number and rates of railroad accidents/incidents, injuries, and fatalities. An RRP is an ongoing program that supports continuous safety improvement. A railroad shall design its RRP so that it promotes and supports a positive safety culture at the railroad. An RRP shall include the following:

(1) A risk-based hazard management program, as described in § 271.103;

(2) A safety performance evaluation component, as described in § 271.105;

(3) A safety outreach component, as described in § 271.107;

(4) A technology analysis and technology implementation plan, as described in § 271.109;

(5) RRP implementation and support training, as described in § 271.111;

(6) Involvement of railroad employees in the establishment and implementation of an RRP, as described in § 271.113; and

(7) An FRMP as described in § 271.607.

* * * * *

6. Section 271.201 is revised to read as follows:

§ 271.201 General.

A railroad shall adopt and implement its RRP through a written RRP plan containing the elements described in this subpart and in § 271.609. A railroad's RRP plan shall be approved by FRA according to the requirements contained in subpart D of this part.

7. Add subpart G to read as follows:

Subpart G—Fatigue Risk Management Programs

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271.609 Requirements for an FRMP plan.

Subpart G—Fatigue Risk Management Programs

§ 271.601 Definitions.

As used in this subpart—

Contributing factor means a circumstance or condition that helps cause a result.

Fatigue means a complex state characterized by a lack of alertness and reduced mental and physical performance, often accompanied by drowsiness.

Fatigue-risk analysis means a railroad's analysis of its operations that:

(1) Identifies and evaluates the fatigue-related railroad safety hazards on its system(s) and;

(2) Determines the degree of risk associated with each of those hazards.

FRMP means a Fatigue Risk Management Program.

FRMP plan means a Fatigue Risk Management Program plan.

Safety-related railroad employee means:

(1) A person subject to 49 U.S.C. 21103, 21104, or 21105;

(2) Another person involved in railroad operations not subject to 49 U.S.C. 21103, 21104, or 21105;

(3) A person who inspects, installs, repairs or maintains track, roadbed, signal and communication systems, and electric traction systems including a roadway worker or railroad bridge worker;

(4) A hazmat employee defined under 49 U.S.C. 5102(3);

(5) A person who inspects, repairs, or maintains locomotives, passenger cars, or freight cars; or

(6) An employee of any person who utilizes or performs significant railroad safety-related services, as described in § 271.205(a)(3), if that employee performs a function identified in paragraphs (1) through (5) of this definition.

§ 271.603 Purpose and scope of a Fatigue Risk Management Program (FRMP).

(a) *Purpose*. The purpose of an FRMP is to improve railroad safety through structured, proactive processes and procedures a railroad subject to this part develops and implements. A railroad's FRMP shall systematically identify and evaluate the fatigue-related railroad safety hazards on its system, determine the degree of risk associated with each hazard, and manage those risks to reduce the fatigue that its safety-related railroad employees experience and to reduce the risk of railroad accidents, incidents, injuries, and fatalities where the fatigue of any of these employees is a contributing factor.

(b) *Scope*. A railroad shall:

(1) Design its FRMP to reduce the fatigue its safety-related railroad employees experience and to reduce the risk of railroad accidents, incidents, injuries, and fatalities where the fatigue of any of these employees is a contributing factor;

(2) Develop its FRMP by conducting a system-wide fatigue-risk analysis that accounts for the varying circumstances of its operations on different parts of its system; and

(3) Employ in its FRMP the fatigue risk mitigation strategies the railroad identifies as appropriate to address those varying circumstances.

§ 271.605 General requirements; procedure.

(a) Each railroad subject to this part shall:

(1) Establish and implement an FRMP as part of its RRP; and

(2) Establish an FRA-approved FRMP plan as a component of a railroad's FRA-approved RRP plan and then update the FRMP plan as necessary as part of the annual internal assessment of its RRP under § 271.401.

(b) A railroad's FRMP plan must explain the railroad's method of analysis of fatigue risks and the railroad's process(es) for implementing its FRMP.

(c)(1) A railroad shall submit an FRMP plan to FRA for approval no later than either the applicable timeline in § 271.301(b) for filing its RRP plan or July 13, 2023, whichever is later; and

(2) A railroad shall submit updates to its FRMP plan under the process for amending its RRP plan in § 271.303.

(d) FRA shall review and approve or disapprove a railroad's FRMP plan under the process for reviewing RRP plans in § 271.301(d) and updates to the railroad's FRMP plan under the process for reviewing amendments to an RRP plan in § 271.303(c). FRA approval of a railroad's FRMP plan amends a railroad's RRP plan to include the FRMP plan as a component.

§ 271.607 Requirements for an FRMP.

(a) *In general*. An FRMP shall include an analysis of fatigue risks and mitigation strategies described in paragraphs (b) and (c) of this section.

(b) *Analysis of fatigue risks*. A railroad shall conduct a fatigue-risk analysis as part of its FRA-approved FRMP, which includes identification of fatigue-related railroad safety hazards, assessment of the risks associated with those hazards, and prioritization of risks for mitigation. At a minimum, railroads must consider the following categories of risk factors, as applicable:

(1) General health and medical conditions that can affect the fatigue levels among the population of safety-related railroad employees;

(2) Scheduling issues that can affect the opportunities of safety-related railroad employees to obtain sufficient quality and quantity of sleep; and

(3) Characteristics of each job category safety-related railroad employees work that can affect fatigue levels and risk for fatigue of those employees.

(c) *Mitigation strategies*. A railroad shall develop and implement mitigation strategies to reduce the risk of railroad accidents, incidents, injuries, and fatalities where

fatigue of any of its safety-related employees is a contributing factor. At a minimum, in developing and implementing these mitigation strategies, a railroad shall consider the railroad's policies, practices, and communications related to its safety-related railroad employees.

(1) *Policies*. A railroad shall consider developing and implementing policies to reduce the risk of the exposure of its safety-related railroad employees to fatigue-related railroad safety hazards on its system. At a minimum, a railroad shall consider these policies:

(i) Providing opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders;

(ii) Identifying methods to minimize accidents and incidents that occur as a result of working at times when scientific and medical research have shown increased fatigue disrupts employees' circadian rhythms;

(iii) Developing and implementing alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty;

(iv) Increasing the number of consecutive hours of off-duty rest, during which an employee receives no communication from the employing railroad or its managers, supervisors, officers, or agents; and

(v) Avoiding abrupt changes in rest cycles for employees.

(2) *Practices*. A railroad shall consider developing and implementing operational practices to reduce the risk of exposure of its safety-related railroad employees to fatigue-related railroad safety hazards on its system. At a minimum, a railroad shall consider these practices:

(i) Minimizing the effects on employee fatigue of an employee's short-term or sustained response to emergency situations, such as derailments and natural disasters, or engagement in other intensive working conditions;

(ii) Developing and implementing scheduling practices for employees, including innovative scheduling practices, on-duty call practices, work and rest cycles, increased consecutive days off for employees, changes in shift patterns, appropriate scheduling practices for varying types of work, and other aspects of employee scheduling to reduce employee fatigue and cumulative sleep loss; and

(iii) Providing opportunities to obtain restful sleep at lodging facilities, including employee sleeping quarters provided by the railroad carrier.

(3) *Communication*. A railroad shall consider developing and implementing training, education, and outreach methods to deliver fatigue-related information effectively to its safety-related railroad employees. At a minimum, a railroad shall consider communications regarding employee education and training on the physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue, based on the most current scientific and medical research and literature.

(d) *Evaluation*. A railroad shall develop and implement procedures and processes for monitoring and evaluating its FRMP to assess whether the FRMP effectively meets the goals its FRMP plan describes under § 271.609(b).

(1) The evaluation shall include, at a minimum:

(i) Periodic monitoring of the railroad's operational environment to detect changes that may generate new hazards;

(ii) Analysis of the risks associated with any identified hazards; and

(iii) Periodic safety assessments to determine the need for changes to its mitigation strategies.

(2) A railroad shall evaluate newly-identified hazards, and hazards associated with ineffective mitigation strategies, through processes for analyzing fatigue risks described in the railroad's FRMP plan.

(3) Any necessary changes not addressed prior to a railroad's annual internal assessment must be included in the internal assessment improvement plans required under § 271.403.

§ 271.609 Requirements for an FRMP plan.

(a) *In general*. A railroad shall adopt and implement its FRMP through an FRA-approved FRMP plan, developed in consultation with directly affected employees as described under § 271.207. A railroad FRMP plan must contain the elements described in this section. The railroad must submit the plan to FRA for approval under the criteria of subpart D.

(b) *Goals*. An FRMP plan must contain a statement that defines the specific fatigue-related goals of the FRMP and describes strategies for reaching those goals.

(c) *Methods*—(1) *Analysis of fatigue risk*. An FRMP plan shall describe a railroad's method(s) for conducting its fatigue-risk analysis as part of its FRMP. The description shall specify:

(i) The scope of the analysis, which is the covered population of safety-related railroad employees;

(ii) The processes a railroad will use to identify fatigue-related railroad safety hazards on its system and determine the degree of risk associated with each fatigue-related hazard identified;

(iii) The processes a railroad will use to compare and prioritize identified fatigue-related risks for mitigation purposes; and

(iv) The information sources a railroad will use to support ongoing identification of fatigue-related railroad safety hazards and determine the degree of risk associated with those hazards.

(2) *Mitigation strategies*. An FRMP plan shall describe a railroad's processes for:

(i) Identifying and selecting fatigue risk mitigation strategies; and

(ii) Monitoring identified fatigue-related railroad safety hazards.

(3) *Evaluation*. An FRMP plan shall describe:

(i) A railroad's processes for monitoring and evaluating the overall effectiveness of its FRMP and the effectiveness of fatigue-related mitigation strategies the railroad uses under § 271.607; and

(ii) A railroad's procedures for reviewing the FRMP as part of the annual assessment of its RRP under § 271.401 and for updating the FRMP plan under the process for amending its RRP plan under § 271.303.

(d) *FRMP implementation plan*. A railroad shall describe in its FRMP plan how it will implement its FRMP. This description must cover an implementation period not to exceed 36 months, and shall include:

(1) A description of the roles and responsibilities of each position or job function with significant responsibility for implementing the FRMP, including those held by employees, contractors who provide significant FRMP-related services, and other entities or persons that provide significant FRMP services;

(2) A timeline describing when certain milestones that must be met to implement the FRMP fully will be achieved. Implementation milestones shall be specific and measurable;

(3) A description of how the railroad may make significant changes to the FRMP plan under the process for amending its RRP plan in § 271.303; and

(4) The procedures for consultation with directly affected employees on any subsequent substantive amendments to the railroad's FRMP plan. The requirements of this section do not apply to non-substantive amendments (*e.g.*, amendments that update names and addresses of railroad personnel).

Issued in Washington, D.C.

Amitabha Bose,
Administrator.

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